High-Performance Mini-PC Barebone supports Intel 6-core CPU, USB 3, SATA 3

XPC Barebone SX58H7 Pro

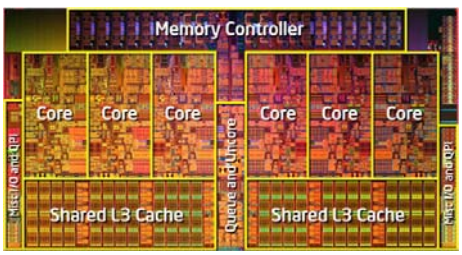
Faster and smaller than any other Mini-PC on the market! This is achieved by making use of Intel's Core i7 processors with 4 or 6 cores and up to 16 GB of DDR3 memory, all based on an X58 Express platform. The Shuttle XPC Barebone SX58H7 Pro also supports high-end graphics cards with two additional power connectors (6+8 pins). The inclusion of USB 3.0, Serial-ATA 3.0 and two Gigabit LAN ports make sure the bandwidth bottleneck of older standards is overcome. There is also a host of different easy-to-access connectors on both the front and back panel. Finally, the 80-PLUS-certified 500W power supply guarantees reliable performance.

Images for illustration purposes only.

Feature Highlights

H7 chassis	• Black aluminium chassis • Drive bays: 1x 5.25", 2x 3.5"
Chipset	• Intel X58 Express + ICH10R
CPU	• Socket 1366 • Supports Intel® Core™ i7 processors • Supports Quad-Core and Hexa-Core • Shuttle I.C.E. Heatpipe cooling
Slots	• 2x PCI-Express x16 (v2.0) • Supports Ati CrossFire & NVIDIA SLI
Memory	• Supports 4x DDR3-1066/1333/1600(OC)* • Supports Triple Channel + 1 • Up to 16 GBytes total size
Drive connectors	• 2x SATA 6Gbps, 2x SATA 3Gbps (internal) • 2x External SATA (1x front, 1x rear) • Supports RAID, NCQ, eSATA power supply
Other connectors	• 7.1-ch HD-audio with S/PDIF output • Dual GigaBit LAN (supports Teaming) • 2x USB 3.0 (front) • 11x USB 2.0 (1x front, 8x rear, 2x onb.) One front USB is combined with eSATA
Power supply	• 500 Watt mini power supply 80 PLUS Bronze compliant 6 and 6+2 pin graphics power
Application	• Performance

Supports Intel Core i7 Six-Core



Product name: **SX58H7 Pro**
Order No.. **PC-SX58H7P11**

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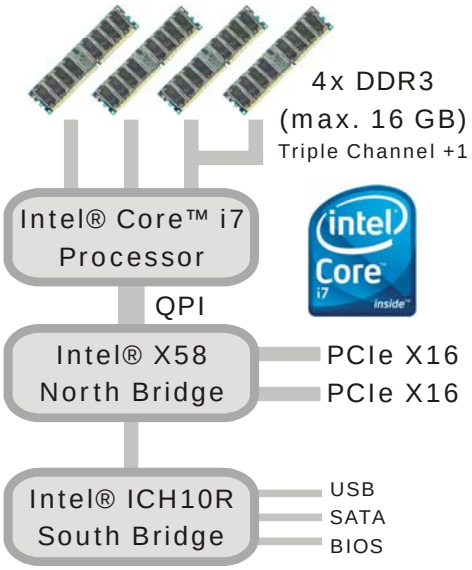
Shuttle XPC Barebone SX58H7 Pro –Product Features

The H7 chassis design: a clean and modern look

Shuttle has always placed great emphasis on the interior and exterior aesthetics of the XPC, with the belief that a good blend of style and form factor allows the XPC to be attractive, versatile, and work well in almost any environment. The chassis and case cover are made of aluminium and come with a sleek brushed metal front fascia. The drives and front panel connectors are elegantly hidden by drive doors for superior style and visual appeal..

Small, but easy to install

Shuttle XPCs offer the performance of a desktop PC at a third of the size while using standard desktop components. Shuttle keeps the concept of being "futureproof" in mind when designing the new H7 chassis. The meticulously designed internal layout features pre-routed cables to reduce clutter, increase airflow and make the installation of components easy.



Based on new Intel Nehalem architecture

The Shuttle XPC Barebone SX58H7 Pro is based on the new core microarchitecture, codenamed Nehalem that brings some major changes not only to the processor architecture, but also the system architecture. These are most significant changes:

- The memory controller has moved from the chipset to the processor and features a triple channel DDR3 interface.
- The Intel® QuickPath Interconnect (QPI) replaces the legacy front side bus between processor and chipset.

Supports Intel Core i7 processors with Socket 1366

The Shuttle XPC Barebone SX58H7 Pro features socket 1366 and supports the Intel® Core™ i7 processors which come in a native quad- or six-core design where all CPU cores sit on the same silicon die and share a massive level 3 cache. In addition, each core supports Hyper-threading enabling these processors to process eight or twelve threads simultaneously making them even more powerful and more efficient at multi-tasking than other CPUs.

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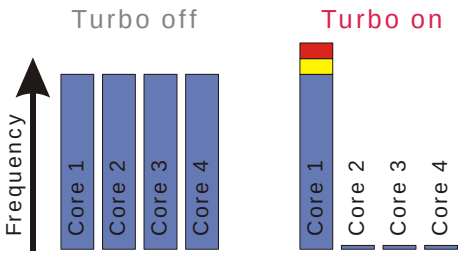

Built-in overclocking "Turbo" mode

Originally introduced on mobile Penryn, Turbo mode increases the operating frequency of the processor, if conditions allow for the CPU to run at a higher frequency. Each Nehalem can run its four cores at up to 133MHz higher than its stock frequency (e.g. 3.33GHz in case of the 3.2GHz 965 model). Alternatively, if only one core is active, it can run at up to 266MHz higher than its stock speed (3.46GHz up from 3.2GHz). Benchmarks show an increase of the overall performance by 2% to 7%, if Turbo mode is enabled in the BIOS setup.

Integrated Cooling Engine (I.C.E.)

Shuttle XPCs offer the performance of a desktop PC at a third of the size. In order to ensure proper airflow inside such a small case, more advanced cooling technologies have been developed and implemented in the Shuttle XPC. Shuttle's industry-leading I.C.E. heatpipe technology delivers efficient cooling and is exceptionally quiet.

What is a Barebone?

The Shuttle XPC Barebone SX58H7 Pro consists of a stylish case with pre-installed mainboard, power supply unit (PSU) and cables. Despite its small form factor it offers outstanding connectivity, functionality and performance. For a full PC system, a processor, memory, hard disk, graphics card and operating system need to be added. Shuttle XPC Barebones are completely customizable meaning users can pick certain components by their own choice to ideally match their individual needs.

USB 3.0 Superspeed

The Shuttle XPC Barebone SX58H7 Pro sports two USB 3.0 ports at the front panel and eight USB 2.0 ports at the back panel. USB 3.0 achieves a maximum data rate of up to 5.0Gbps (640MBytes/sec), which is ten times faster than USB 2.0. USB 3.0 is fully compatible to USB 2.0, but not USB 1.1. At first sight USB 3.0 connectors seem no different to USB 2.0 connectors, USB 3.0 connectors have five more pins placed deep inside the connector cover. USB 2.0 can provide a maximum of 500 mA to the USB device while it's 900 mA for USB 3.0. which is particularly important for portable hard drives. USB 3.0 also comes with better power saving options, so your USB powered devices will consume less when idle.

SATA 3.0 with up to 6 Gbit/s speed

The Shuttle XPC Barebone SX58H7 Pro has two onboard Serial ATA ports Revision 3.0 delivering super-fast 6Gbps link speeds for twice the data transfer rates of SATA Revision 2.0 (3 Gbps). A move from SATA 3 Gbit/s to SATA 6 Gbit/s allows the new generation of Solid-State Drives (SSDs) to work at their full speed. As for standard hard disks (HDDs), reading times from their built-in DRAM cache will be faster too..

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Supports Dual-Slot Graphics Cards

Despite the small housing, the Shuttle XPC Barebone SX58H7 Pro is capable of running dual-slot (double-height) PCI Express graphics cards. Please refer to the support list on global.shuttle.com for detailed support information.

Supports up to 16GB of DDR3 memory

The Shuttle XPC Barebone SX58H7 Pro supports up to 16GB DDR3-1333 memory which is ideal for workstations powered by 64-bit operating systems, enabling users to take full advantage of high-performance configurations.

500W power supply with 80 PLUS BRONZE logo

The Shuttle XPC Barebone SX58H7 Pro is equipped with a rock-stable 500W power supply which has been tested with the latest graphics cards and powerful Core i7 processors. Its 80 Plus Bronze logo indicates that it provides more than 82/85/82% of energy efficiency at 20/50/100% of rated load which reduces energy consumption and increases the computer's reliability.

Reasonably low power consumption

Despite its punch-packing performance, the Shuttle XPC Barebone SX58H7 Pro keeps power draw at a reasonable level. With Intel's 6-Core processor, Core i7 980X at 3.33GHz, ATI Radeon HD5870, 6GB DDR3 RAM, DVD writer, SSD and Windows 7 it only consumes 101W in idle mode and 252W under full load.

External Serial ATA ports on front and back panel

In addition to the eSATA port at the back panel, the SX58H7 Pro also comes with one eSATA port at the front panel for plugging in high-speed external hard-drives. The eSATA interface is up to three times faster than USB 2.0.

Supports RAID functionality

This Shuttle XPC Barebone provides two 3.5" bays for Serial-ATA hard disks that can also be configured in RAID mode. This is complemented by the Matrix Storage Technology, which allows for deployment of several RAID arrays across the same set of hard drives. As a simple example, two hard drives can be installed and use 30 per cent of their capacity to create a fast RAID 0 stripe set. Now configure the remaining capacity to hold redundant data in RAID 1 array. This would be the ideal solution to enhance hard disk performance and data back up protection without the extra costs of add-on cards.

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eSATA with External Power

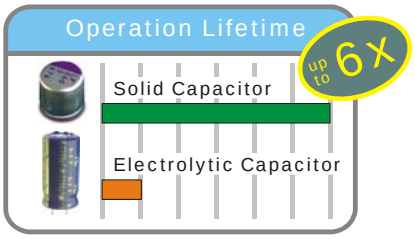
The back panel provides two external Serial ATA ports and a power port. The included cables make it a snap to connect two external hard drive to the XPC. An eSATA interface is up to six times faster than USB 2.0/Firewire.

Dual Gigabit LAN with Teaming Support

This Shuttle XPC Barebone also features two high-speed Gigabit LAN ports. The teaming function allows for grouping both available network adapters together to work as one single adapter - a method to set up a virtual LAN. The benefit of this approach is to enable load balancing and failover.

HD Audio capabilities

The Shuttle XPC Barebone SX58H7 Pro supports 7.1 channel audio via four analog stereo audio ports or the optical S/PDIF out.



Solid Capacitors

By using all-solid capacitors (except the audio part) Shuttle mainboards are long-life and provide industry leading stability and reliability. The average lifespan of one solid capacitor is more than six times greater than the more common and less expensive electrolytic capacitors.

*) Overclocking Warning: Please note there is a certain risk involved with overclocking, including adjusting the setting in the BIOS or using third-party overclocking tools. Overclocking may affect your system stability or even cause damage of the components and devices of your system. It is done at your own risk and expense. Shuttle cannot be held responsible for possible damage caused by overclocking.

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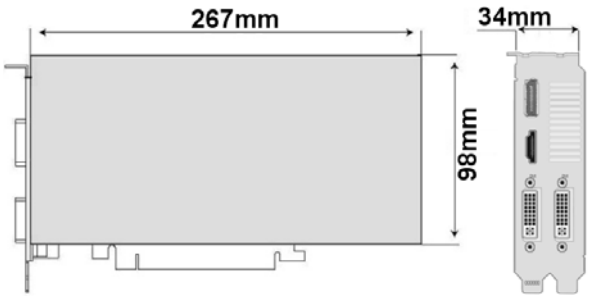
Shuttle XPC Barebone SX58H7 Pro for ultimate performance

Supports dual-slot graphics cards

The Shuttle XPC Barebone SX58H7 Pro supports large dual-slot graphics cards that occupy two slots. Please note, that in this case the second slot cannot be used for further expansion cards.

Maximum Dimensions: 267mm(L) x 98mm(H) x 34mm(D)

Despite the small cube format, Shuttle XPCs still support very large graphics cards. Please note, that graphics cards with the same model number may differ in size.



Is the 500W power supply sufficient?

Yes. The highly-efficient 500W power supply is especially designed to meet the requirements of a fully-equipped SX58H7 Pro with Intel's six core processor, high-end graphics card, 16GB DDR3 RAM, Blu-ray disk writer and two hard disks.

Graphics card power connectors

As the processing power of video cards has increased, so has their demand for electrical power. Since the PCI-Express connection is limited to supplying 75 Watt at maximum, the power supply of the SX58H7 Pro provides a combination of 6-pin (75W) and 6+2-pin (150W) Molex power connectors in order to deliver sufficient energy for reliable operation of the latest high-end graphics cards.

Compatibility list

Please find compatible components such as processors and graphics cards on the support list at **global.shuttle.com**. Please note that only a limited choice of components available on the market can be tested. Naturally, the list is kept up to date and extended constantly when new components become available.

NVIDIA GeForce
GTX 580 GDDR5 1.5G, GTX280, GTX260, GTX465, Quadro FX 1800 / FX 580,...

ATI Radeon
HD5870, HD5850 HD5770, HD5750, HD4870, HD4850, ...

Supports two graphics cards

The Shuttle XPC Barebone SX58H7 Pro provides two PCI Express x16 Version 2.0 slots that can be fitted with two single-slot graphics cards. Such can be used for 4-monitor operation or work in a team in ATI CrossFireX™ or NVIDIA SLI mode to deliver ultimate gaming performance.

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Shuttle XPC Barebone SX58H7 Pro Specifications

Chassis	H7-type aluminum chassis, color: black Storage bays: 1 x 5.25", 2 x 3.5" (1 internal) Stealthed drive doors Dimensions: 32.6 x 20.8 x 18.9/19.6 cm (LWH) without/with rubber feed Volume: 12.8 litres Weight: 3.8 kg net / 5.2 kg gross
Mainboard	Mainboard FX58 Pro, Shuttle form factor, proprietary design for SX58H7 Pro Chipset: Intel X58 Express (codenamed Tylersburg) + ICH10R (I/O Controller Hub) Solid Capacitors for excellent heat resistance and enhanced system durability, much better than aluminum electrolytic capacitors
Power Supply	500 Watt mini PSU, AC input voltage: 100~240V 80PLUS Bronze certified (>82/85/82% energy efficiency at 20/50/100% load) Active PFC circuit (Power Factor Correction) ATX power connectors: 20 pin + 8 pin (12V) Graphics card power connector: 6 pin (75W) and 6+2 pin (150W) Other connectors: 3x SATA, 2x Molex, 1x Floppy
Processor Support	Supports Intel® Core™ i7 processors with Socket 1366 Supports Core-i7-900 series Quad- and Hexa-core processors Please refer to the support list for detailed processor support information: http://global.shuttle.com/support_list.jsp The previous Front Side Bus (FSB) by the new QPI (QuickPath Interconnect) which features up to 6.4GT/s (3.2GHz) and a maximum transfer rate of 25.6GB/s. Supports Dynamic Overclock feature (DOC): Easily overclock function to be enabled through a simple BIOS setting. *)
Processor Cooling	Shuttle Integrated Cooling Engine (I.C.E.) with efficient heat-pipe technology
Memory Support	4 x 240 pin slots, supports 3+1 channel configuration (Triple Channel) Supports DDR3-1066/1333 SDRAM memory (PC3-8500/10600) Supports DDR3-1600 (PC3-12800) in overclocking mode *) Max. 4 GB per DIMM, up to a total size of 16 GB Warning: DIMMs with voltage over 1.65V may damage your CPU. Shuttle recommends to install the DIMMs with voltage setting below 1.6V.
Expansion Slots	2x PCI-Express x16 Version 2.0 expansion slots for x16 graphics cards (full 16 lanes each slot) Supports Dual Graphics card by ATI CrossFireX™ or NVIDIA SLI™ Technology. Two graphics cards can be used to enable 4-monitor-operating or ATI CrossFireX™ / NVIDIA SLI™ mode for leading-edge gaming performance. Supports two single-slot or one double-width graphics card. 1x Mini-PCIe x1 slot for an optional WLAN module

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8-channel Audio	7.1 channel High Definition Audio with Realtek ALC888 codec Analog audio: line-out (8-ch), line-in, microphone, Audio AUX-in (onboard) Digital audio: optical S/PDIF output
Dual Gigabi LAN	Dual Gigabit Network Controller 2x RJ45 connectors supports Teaming-Mode**) Realtek 8111E Ethernet network controller IEEE 802.3u 1000Base-T compliant Supports 10 / 100 / 1.000 MBit/s operation Supports Wake-on-LAN
Drive connectors	2x internal Serial-ATA, 6 Gbit/s data transfer rate 2x internal Serial-ATA, 3 Gbit/s data transfer rate 2x external Serial-ATA, 3 Gbit/s data transfer rate (1x front, 1x rear) Power connector for eSATA hard disks (incl. cable) Intel Matrix Storage Technology enabled striping and mirroring Supports RAID mode 0, 1, 5, 10 & JBOD Supports AHCI und Native Command Queuing (NCQ)
Front panel connectors	Microphone Headphone (Line-out) 2x USB 3.0 eSATA / USB 2.0 combo port Power button Power LED indicator HDD LED indicatorBack
Back panel connectors	8x USB 2.0 2x GigaBit LAN (RJ45) 1x External Serial ATA Hotplug (eSATA) Power connector for eSATA hard disks (incl. cable) 8-ch Audio line-out (2x front, 2x rear, bass/center, surround/back) Audio Line-in Digital audio: optical S/PDIF output Clear CMOS button
Onboard connectors	2x USB 2.0 (one 2x5 pin header) 2x fan connectors (4 pins and 3 pins) 1x Digital Audio S/PDIF output (3 Pins, occupied) 1x Audio AUX input (analog) 1x RS-232 COM port (2x5 pin header)
Accessories	Driver DVD ROM Quick Installation Guide (multi-language) 2x SATA cables (pre-installed) External SATA (eSATA) cable One 2x2 pin power cable for eSATA hard disks 1x Power cord Screws Heatsink compound

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****) Teaming Mode**

The teaming function allows for grouping both available network adapters together to work as one single adapter - a method to set up virtual LAN. The benefit of this approach is to enable load balancing and failover.

Intel Core i7 (Socket 1366) Processor Overview		
Codename	**Bloomfield (45nm)**	**Gulftown (32nm)**
Name	**Core i7**	**Core i7**
Cores	4	6
Hyper-Threading	Yes	Yes
Cache	8MB	12MB
DDR3	3x1066/800	3x1066
Models (GHz, normal/Turbo)	**975(XE)** (3.33/3.60) **965XE** (3.20/3.33) **960** (3.20/3.46) **950** (3.06/3.33) **940** (2.93/3.20) **930** (2.80/3.06) **920** (2.66/2.93)	**990X** (3.46/3.73) **980X** (3.33/3.60) **970X** (3.20/3.46)

*) Date: January 2011. Please refer to the support list for detailed processor support information at global.shuttle.com

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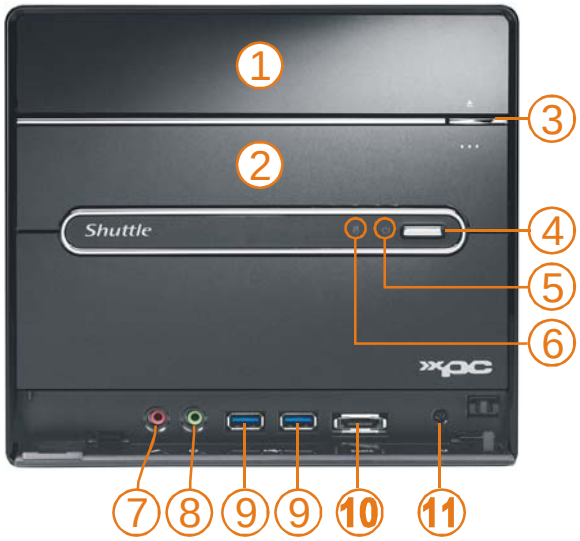
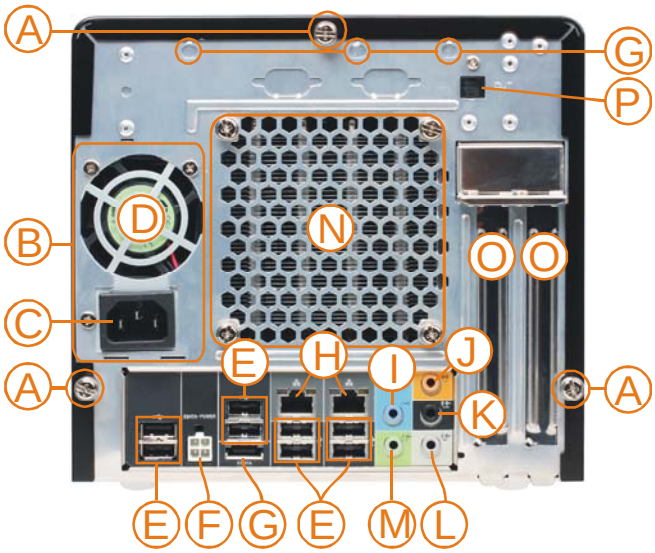
Shuttle XPC Barebone SX58H7 Pro – Connectors and Components

Front Panel

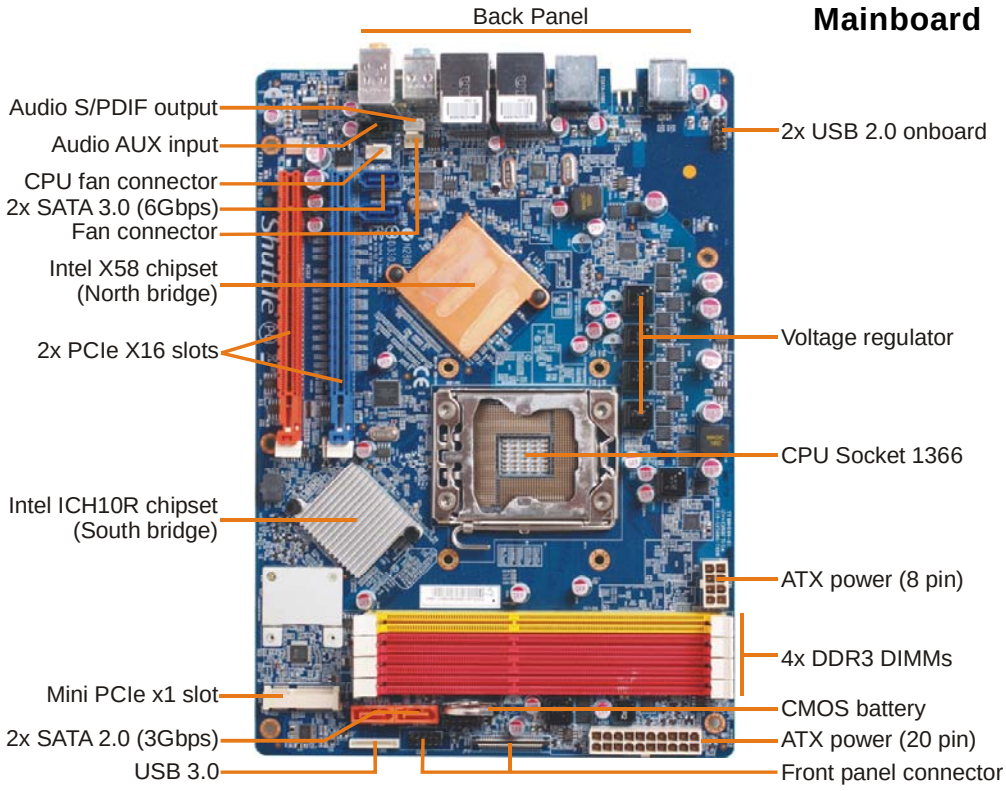


Back Panel



1	5.25” bay for optical drive	**A**	Three thumbscrews	**I**	Audio Line-in
2	3.5” bay	**B**	Power supply (PSU)	**J**	Audio Center/Bass
3	Eject button	**C**	AC power socket	**K**	Audio Surround-Back
4	Power switch	**D**	Power supply fan	**L**	Audio Surround-Side
5	Power LED	**E**	8x USB 2.0 ports	**M**	Audio Surround-Front
6	Hard disk LED	**F**	Power output for eSATA	**N**	Heat-pipe cooling fan
7	Microphone input	**G**	eSATA port	**O**	2x PCIe X16 slots
8	Headphone output	**H**	Dual Gigabit LAN	**P**	Optical S/PDIF output
9	USB 2.0 port				
10	eSATA+USB combo port				
11	Reset Button				

Mainboard



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